



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/590,380	06/09/2000	Gerard Hotier	PET 1855	2202

23599 7590 08/11/2004

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.  
2200 CLARENDON BLVD.  
SUITE 1400  
ARLINGTON, VA 22201

EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/590,380	Applicant(s) HOTIER ET AL.	
	Examiner Alexis Wachtel	Art Unit 1764	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 15-23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6-9-2000</u> . | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Claim Objections***

1. Claims 1-23 are objected to for utilizing reference numerals in conjunction with the present claim language. Examiner requests that Applicant rewrite the claim language of the instant claims to employ claim language to communicate structural limitations.

With respect to claim 8, the recitation of the limitation "A Mat comprising on at least a part of its length at least one element having the characteristics of claim 1" does not further limit claim 8. Any rejection of the base claim would read on claim 8.

With respect to claim 13, the recitation of the limitation "said secondary passage means" lacks antecedent basis.

Additionally it is noted that any claim amendments that alter the scope of the instant claims may potentially lead to the withdrawal of previously indicated allowable subject matter and or potentially lead to additional 35 USC 112 rejections and/or prior art rejections.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-4, 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1764

With respect to claims 2-4 and 10, Applicant does not clearly describe what is meant by the phrase "A Mat element according to claim 1, comprising a space that is separate from spaces, whereby said space is connected to means for passing a fluid that communicates with the outside of the mat". What spaces is Applicant referring to? How are the spaces different? Claims 2 and 10 as written are so incomprehensible as to preclude examination on the merits.

With respect to claim 3 Applicant does not clearly delineate what is meant by the phrase "whereby part is separated from part by a sealing element, and each of parts comprises at least a space and a space". Claim 3 as written is so incomprehensible as to preclude examination on the merits. Claim 4 is additionally not examined on the merits for depending on claim 3.

With respect to claim 11, it isn't clear what Applicant is attempting to communicate with the phrase "whereby part is separated from part by a sealing element, each of parts comprises at least a space and a space". Accordingly, this portion of claim 11 is so incomprehensible as to preclude examination on the merits.

With respect to claim 12, what does Applicant mean by the phrase "wherein said mat element or elements comprises at least one means for passing a fluid that communicates with at least one of spaces or". What spaces is Applicant referring to? Claim 12 as written is so incomprehensible as to preclude examination on the merits.

***Claim Rejections - 35 USC § 102***

Art Unit: 1764

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1,2,6,7,8,9 and 14 rejected under 35 U.S.C. 102(e) as being anticipated by US 5,989,502 to Nelson et al.

With respect to claim 1, Nelson et al teaches a mat element or beam element comprising at least:

an upper part (11),

a distributor-collector part (86,84) comprising one or more secondary orifices (86) and comprising at least one main orifice (84), whereby the passage sections of orifices (86) and (84) are different,

a lower part (62),

distributor-collector part or parts (86,84) are arranged between an upper part (11) and a lower part (62),

a sealing element (74) arranged between distributor-collector part (86,84) and upper part (11) and a sealing element (122) arranged between distributor-collector part (86,84) and lower part (62),

a separation element (30) arranged at distributor-collector part (86,84) thus delimiting two spaces for circulation of fluids.

Art Unit: 1764

With respect to claim 6. A Mat element according to claim 1, comprising an approximately cylindrical mat element (Fig.2).

With respect to claim 7. A Mat element according to claim 1, comprising connecting means (64) arranged at at least its lower end and/or its upper end.

With respect to claim 8. A Mat comprising on at least a part of its length at least one element having the characteristics of claim 1. Examiner notes that the rejection of claim 1 provides for rejection of claim 8.

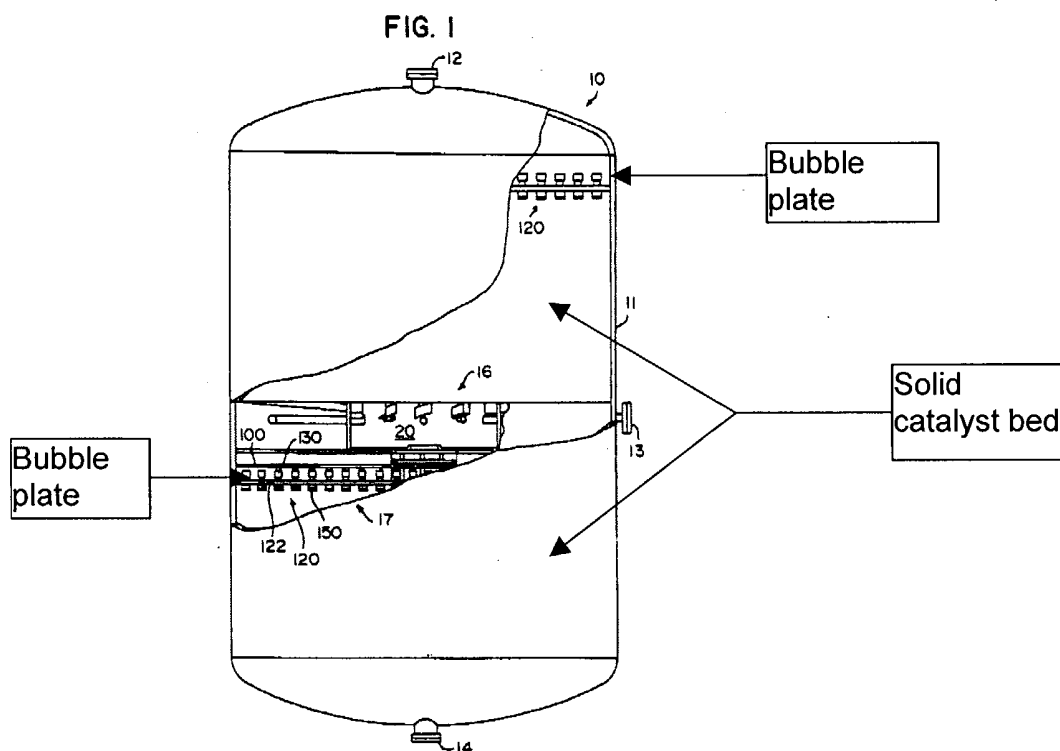
With respect to claim 9. A Device for bringing at least one fluid into contact with a solid, comprising at least:

- one chamber (10);

- a mat arranged approximately along the axis of said chamber (16);

- several spaced levels of distributor plates (120);

- a solid bed arranged between two plates (Fig.1)



several transfer lines (12; 14) for the circulation of fluids between the chamber and the outside of the chamber;

a mat comprising on at least a portion of its length a mat element that comprises at least the following characteristics:

an upper part (11);

a distributor-collector part (84,86) that comprises one or more secondary orifices (86) and that comprises at least one main orifice (84), whereby the passage sections of orifices (84) and (86) are different;

a lower part (62);

distributor-collector part or parts (84,86) are arranged between said upper part (11) and said lower part (62);

Art Unit: 1764

a sealing element (74) arranged between distributor-collector part (84,86) and upper part (11) and a sealing element (122) arranged between distributor-collector part (86,84) and lower part (62);

a separation element (30) arranged at distributor-collector part (84,86), thus delimiting two spaces for circulation of fluids.

With respect to claim 14: Comprising transfer lines (12 and 14) connected to one or more means that allow the circulation of various fluids between the outside of said chamber and the inside according to a given sequence. Examiner notes that transfer lines are connected to the claimed device and inherently allow for circulation of various fluids as claimed.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5,11,13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,989,502 to Nelson et al.

With respect to claim 5. A mat element according to claim 1 comprising one or more units, each comprising at least:

an upper part (11); a distributor-collector part (86,84) that comprises one or more secondary orifices (86) and comprising at least one main orifice (84) whereby the passage sections of orifices (86) and (84) are different;



Art Unit: 1764

a sealing element (74) arranged between distributor-collector part (3) and upper part (2) and a sealing element (5b) arranged between distributor-collector part and lower part (4);

a separation element (8) that is arranged at distributor-collector part (), thus delimiting two spaces for circulation of fluids.

While Nelson et al teach the use of a distributor part (86,84) that is located between an upper (11) and lower part (62), Nelson et al do not teach using a duplicate distributor-collector part or parts arranged between an upper part (11) and a lower part (62). However, the Courts have held that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). As a result, it would have been an obvious matter of engineering choice to have provided a duplicate distributor part located between and upper and lower part motivated by the desire to improve fluid throughput within the resulting apparatus.

With respect to claim 11, Nelson et al fail to teach using multiple distributor-collector part or parts arranged between an upper part (11) and a lower part (62) and wherein the distributor-collector part that are each provided with orifices. However, the Courts have held that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). As a result, it would have been an obvious matter of engineering choice to have provided a duplicate distributor part having the claimed orifices located

between and upper and lower part motivated by the desire to improve fluid throughput within the resulting apparatus.

With respect to claim 13, A Device according to claim 9, comprising several secondary fluid transfer lines (86,84) that are connected to said secondary passage means (13). Examiner notes that fluid transfer lines (86,84) define orifices at their mutual junction points.

***Allowable Subject Matter***

8. Claims 15-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claims 15-20, Nelson et al is completely silent with respect to the inclusion of any rotary valve in the disclosed apparatus. As such, it would not have been obvious to one of ordinary skill to have integrated a rotary valve as claimed in claims 15-22 with apparatus disclosed by Nelson et al above.

With respect to claims 21 and 22, Nelson et al teach the use of plates (120); (Fig.6A) having several sectors radial form and each of the sectors comprises a fluid distribution chamber (130); (Fig.6B) but fails to teach that fluid distribution chambers are connected to said central mat by secondary fluid transfer lines. Since fluid percolates through catalyst material and the plates, there is no apparent need for such secondary fluid transfer lines.

With respect to claim 23, the apparatus disclosed by Nelson et al is used for hydrotreating and hydrocracking of relatively heavy petroleum hydrocarbon stocks.

Art Unit: 1764

Nelson et al do not teach the desirability of using the apparatus for the separation of at least one aromatic isomer with eight carbon atoms into a mixture of xylenes and ethylbenzene.

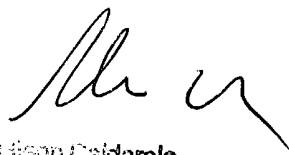
***Prior Art of Record***

9. The prior art of record and not relied upon is considered pertinent to Applicant's disclosure. In addition, the following references are cited for disclosing various aspects of Applicant's invention:

US 2369478; US 3787189; US 4960571; US 4836989; US 2461331; US 3705016;  
US 5403560

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700